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# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
Executive Director

### Division of Oil, Gas and Mining

JOHN R. BAZA  
Division Director

May 6, 2014

Lantz Indergard  
Lisbon Valley Mining Company, LLC  
755 N. Main Street, Suite B  
PO Box 400  
Moab, Utah 84532

Subject: Review of Annual Waste Rock Monitoring Report, Lisbon Valley Mining Company, Lisbon Valley Copper Mine, M/037/0088, San Juan County, Utah

Dear Mr. Indergard:

The Division of Oil, Gas and Mining (Division) accepts the Annual Waste Rock Monitoring Report with the following observations and comments. These comments are suggestions and are primarily intended to assist with preparation of future reports. The Division is not asking that the current report be modified.

Comment #	Location	Comment
1	Environmental Criteria	In the last sentence of the paragraph, it appears that the first use of the term "Likely Acid Neutralizing" should be "Likely Acid Generating", and the sentence should be completed to identify what characteristics make waste material acid generating.
2	Acid-Base Accounting	The limit for likely acid formation is reported to be +20 t CaCO <sub>3</sub> /kt. Correct the limits of the Likely Acid Forming category to be NNP < -20 t CaCO <sub>3</sub> /kt.
3 (previous comment #12)	Waste Rock Handling & Survey	Identify the character (e.g. NPR) and encapsulation thickness of Rock Types 1-3 and 6-7, and any other Rock Types used for the encapsulation of Rock Types 4 and 5.  Rock Type 3 has been considered acid neutralizing and apparently suitable as encapsulating material. Samples of Rock Type 3 in 2013 are considered acid generating, due to the acid-base accounting results and the significantly low pH of the MWMP effluent. The overall averages for Rock Type 3 are now: NPR = 0.084, NNP = -16.3 t CaCO <sub>3</sub> /tonne, which would indicate uncertainty of acid formation. Considering both past and current findings, please re-evaluate the nature of Rock Type 3. Are any of Beds 3 through 5 likely to be acid generating? Address the past comment referencing the backfill evaluation about pyrite in Bed 12 and acknowledge what appears to be occasional acid forming samples in other rock types.

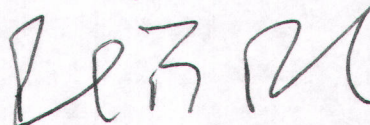


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| 4 | Summary & Conclusions | Acknowledge that some of the individual samples from multiple rock types categorized as Likely Acid Neutralizing are likely acid generating, but that based on the averaged data, the overall character of those rock types are likely neutralizing. Briefly discuss Rock Type 3, consistent with Comment 3 above. Discuss the significance of the comparative volumes of different rock types wasted. |
| 5 | Appendix A            | Explain changes to the percent sulfur and associated AGP, ANP, and NNP values from specific samples in 2013 compared to 2012 (such as samples from RT6).   |
| 6 | Appendix A            | It appears that samples from 2013 should be identified as something other than drill pulp samples.   |
| 7 | Appendix E, Maps      | Elevations of potentially deleterious waste on the C Dump map are greater than the topographic elevations in the same areas. This should be corrected if necessary. Ensure that acid forming material is encapsulated.   |

Please contact Peter Brinton at 801-538-5258, Mike Bradley at 801-538-5332 or me at 801-538-5261 if you have questions or concerns regarding this letter.

Sincerely,



Paul Baker  
Minerals Program Manager

PBB: mpb: eb

cc: Rebecca Doolittle, BLM Moab FO (rdoolitt@blm.gov)  
Joe Manning, BLM, Moab FO (jmanning@blm.gov)  
Jerry Mansfield, SITLA (jmansfield@utah.gov)

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